AMENDMENTS TO THE CLAIMS

Please amend claims 1, 16, 18-20 and 26, as shown below. A complete listing of the claims, including their current status, is set forth below.

1. **(Currently amended)** A method of making a plurality of microbar encoders, the microbar encoders having a characteristic detectable signal and capable of linking to a probe molecule, comprising:

(a) producing a multi-layered structure, each layer of said structure comprising a transducing material, **by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission** and

(b) **non-mechanically** dividing the multi-layered structure into the plurality of microbar encoders, wherein the plurality of microbar encoders have a characteristic detectable signal.

2. **(Previously presented)** The method of claim 1, wherein the method further comprises:

(c) detaching the plurality of microbar encoders from a substrate.

3. **(Previously presented)** The method of claim 2, wherein the method further comprises depositing a removable layer directly onto the substrate and, after dividing the multi-layered structure removing the removable layer from the substrate, wherein removing the removable layer frees the plurality of microbar encoders.

4. **(Withdrawn)** The method of claim 1, wherein the multi-layered substrate is produced by coextrusion.

5. **(Original)** The method of claim 1, wherein the transducing material produces the characteristic detectable signal by electromagnetic emission or absorption.

6. **(Withdrawn)** The method of claim 1, wherein the transducing material is selected from the group consisting of an organic dye, an inorganic phosphor, a metal-organic phosphor, a fluorescent dye, a pigment, a scattering or absorbing powder, a three-dimensional photoluminescent dendrimer molecule, and combinations thereof.

7. **(Original)** The method of claim 1, wherein the transducing material is a quantum dot.

8. **(Original)** The method of claim 1, wherein the probe molecule is capable of binding with a target molecule.

9. **(Original)** The method of claim 8, wherein the probe molecule or the target molecule comprises a biological molecule.

10. **(Original)** The method of claim 9, wherein the biological molecule comprises a nucleic acid molecule.

11. **(Withdrawn)** The method of claim 9, wherein the biological molecule comprises a monoclonal or polyclonal antibody.

12. **(Withdrawn)** The method of claim 8, wherein the probe molecule or the target molecule comprises a small molecule.

13. **(Previously presented)** The method of claim 1, wherein one or more of the layers comprises a polymeric matrix.

14. **(Withdrawn)** The method of claim 1, wherein the multi-layered structure is divided by laser ablation.

15. **(Withdrawn)** The method of claim 1, wherein the multi-layered structure is divided by mechanical punching.

16. **(Currently amended)** A method of making a plurality of microbar encoders, comprising:

non-mechanically dividing a multi-layered structure **unsupported by a template and** comprising **a plurality of layers of polymers each capable of producing a characteristic electromagnetic emission** to produce a plurality of microbar encoders, wherein ~~wherein~~ said dividing is done by photolithography.

17. **(Previously presented)** The method of claim 16, wherein the multi-layered structure is divided by depositing a patterned mask layer over a surface of the multi-layered structure, the mask layer protecting a portion of the surface of the multi-layered structure, and etching through an unprotected portion of the surface of the multi-layered structure.

18. **(Currently amended)** A method of making a plurality of microbar sensors comprising:

(a) making a plurality of microbar encoders by:

(i) producing a multi-layered structure, each layer of said structure comprising a transducing material, **by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission** and

(ii) **non-mechanically** dividing the multi-layered structure into the plurality of microbar encoders, wherein the plurality of microbar encoders have a characteristic detectable signal

(b) linking a probe molecule to the plurality of microbar encoders.

19. **(Currently amended)** A method of making an assembly of microbar encoders comprising:

(a) making a first plurality of microbar encoders by:

(i) producing a first multi-layered structure, each layer of said first multi-layered structure comprising a transducing material, **by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission** and

(ii) **non-mechanically** dividing the first multi-layered structure into the plurality of first microbar encoders

and

(b) making a second plurality of microbar encoders by:

(i) producing a second multi-layered structure, each layer of said second multi-layered structure comprising a transducing material, **by by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission** and

(ii) **non-mechanically** dividing the second multi-layered structure into the plurality of second microbar encoders

wherein the first and second plurality of microbar encoders have different characteristic detectable signals.

20. **(Currently amended)** A method of making an assembly of microbar sensors comprising:

(a) making a first plurality of microbar sensors by:

(i) making a plurality of microbar encoders by:

(a) producing a first multi-layered structure, each layer of said structure comprising a transducing material, **by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission** and

(b) **non-mechanically** dividing the multi-layered structure into the plurality of first microbar encoders; and

(ii) linking a probe molecule to the first plurality of microbar encoders, and

(b) making a second plurality of microbar sensors by:

(i) making a plurality of microbar encoders by:

(a) producing a second multi-layered structure, each layer of said structure comprising a transducing material **by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission**, and

(b) **non-mechanically** dividing the second multi-layered structure into the plurality of second microbar encoders;

(ii) linking a probe molecule to the second plurality of microbar encoders;

wherein the first and second plurality of microbar sensors have different characteristic detectable signals.

21-25. **(Cancelled)**

26. **(Currently amended)** A method of making a plurality of microbar encoders, the microbar encoders having a characteristic detectable signal and capable of linking to a probe molecule, comprising:

(a) producing a multi-layered structure, each layer of said structure comprising a transducing material, **by sequentially depositing a plurality of polymers onto a substrate unsupported by a template, wherein each polymer is capable of producing a characteristic electromagnetic emission** and

(b) non-mechanically dividing the multi-layered structure into the plurality of microbar encoders, wherein the plurality of microbar encoders have a characteristic detectable signal.

27. **(Previously presented)** The method of claim 26, wherein said non-mechanically dividing uses photolithography.

28. **(Withdrawn)** The method of claim 26, wherein said non-mechanically dividing uses ion milling.

29. **(Withdrawn)** The method of claim 26, wherein said non-mechanically dividing uses laser ablation.